

ABSTRACT OF THE INVENTION

A semiconductor die mounted between an X-lead frame and a support structure without bonding wires or straps. A power enhancement mode junction field effect transistor (JFET) die having a top surface defining a drain, and a bottom surface having a first metalized region defining a source and a second metalized region defining a gate, is positioned on a support structure. An X-lead frame is bonded to the support structure such that electrical contact is made with an external lead. Angular projections from the X-lead frame make contact with the top surface of the JFET, hold the die in place on the support structure, and form electrical continuity between the JFET drain and the external lead. A construction on the surface of the support structure is positioned directly under the source region on the bottom of the JFET die and forms electrical continuity between the JFET source and a second external lead. An additional construction on the surface of the support structure is positioned directly under the gate region on the bottom of the JFET die and forms electrical continuity between the JFET gate and a third external lead. Contacts between the drain, source and gate regions on the JFET die and the three corresponding external leads are made without the need for bonding wires and or straps to the surface regions on the JFET die. The support structure, X-lead frame and JFET die assembly is adaptable for various standard encapsulating housings such as the SO8.